PROGRESS
OF
MEDICAL SCIENCE.

MEDICINE.

UNDER THE CHARGE OF
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Percussion in the Diagnosis of Respiratory Disease.—R. W. Phillip (*Edin. Med. Jour.*, 1907, xxii, 473) says that percussion serves not merely as a determinant of the size of the lung, and of its consistence at a given area—normal, infiltrated, excavated, or otherwise—but it affords a most valuable physiological test of the functional activity of the organ. For this latter determination Phillip uses a method which he calls "tidal percussion." This consists of the practice of percussion alternately during expiration and full inspiration. For early diagnosis this is especially valuable at the apices; but it is also helpful at the bases and anterior edges. In health the rise in the upper limit of resonance above the clavicles is quite marked during deep inspiration, and all degrees of variation may be found in this rise, depending upon how much the lung is affected; it may be of special value when only one apex is involved, as one then has the normal increase in resonance on the opposite side to compare with. Phillip asserts that by this method differences in the resonance of the extreme apices and bases can be easily determined, and that, especially at the apices, this change in pulmonary resonance should be carefully estimated by carrying our percussion higher above the clavicle than is done with the usual perfunctory percussion, either directly over the clavicle or only one finger's breadth above it. His method is to place the finger horizontally across the apex of the lung from back to front in a plane at right angles to the vertical diameter of the lung. (This is illustrated in the article, as is also the change noted in the size of the apex in different conditions.) During the progress of the disease much information may be obtained in respect to prognosis. Phillip says: "As the disease becomes arrested a considerable increase in degree and extent of resonance during full inspiration is frequently observed. Such a return of the ampler tidal resonance affords one of the most satisfactory indications of improvement. On the other hand, as the disease advances, the amount of tidal percussion then is reduced still further."

Epidemic Pneumonia.—Marshal Fabyan (*Johns Hopkins Hospital Bulletin*, 1907, xviii, 439). The fact that pneumonia may occur at times in peculiar groupings and spread as if by direct contagion is of considerable interest; such epidemics have been reported often. Fabyan reports the cases of a family of ten people, six of whom developed acute lobar pneumonia within a period of ten days. Only two of the family escaped being sick at all, one of whom lived away from home and only returned for a while to nurse the others. The father of the family had been ill with a "cold," hoarseness, and abdominal pain three days before the onset of the first case of pneumonia; and although pneumonia was not definitely recognized, he may have been the source of the infection for the family. The conditions under which the patients lived were bad. It is interesting that when two of the patients slept together the second infection followed the first in every case in from six to nine days. One case, that of a girl aged fourteen years, was fatal. Fabyan reviews the literature bearing on this subject, which reveals wide differences of opinion as regards the contagiousness of pneumonia. No special etiological factors accounting for this apparent contagiousness could be found in the above group.

The Ophthalmo-Tuberculin Diagnostic Test.—Edwin R Baldwin (*Jour. Amer. Med. Assoc.*, 1907, xlix, 1669). The early diagnosis of tuberculosis is so important that every apparent improvement in methods is worthy of a careful trial. The use of tuberculin, both hypodermically and as a skin vaccine has been widely practised. Professor Calmette has recently advised the introduction of weak tuberculin solutions (1 per cent.) into the eye; a marked conjunctival hyperemia results in infected individuals. Baldwin has used this method, slightly modified, and reports on the reaction in 137 cases. His conclusions are that it is a little premature to express an opinion as to the value of this test in diagnosis when compared to the subcutaneous one However, one can see a close similarity in the results with those obtained in the fever test, which, also, when given to healthy and suspected individuals, has shown a high percentage of positive reactions. The prompt positive reaction in the eye adds to the suspicion when symptoms of tuberculosis are present. No value is to be placed on a positive reaction in the absence of symptoms of tuberculosis. Baldwin hopes that, ultimately, carefully controlled results at the postmortem table will give us the real limitations of these methods of diagnosis. Certainly, the simplicity of the method (as the dose can now be obtained in little capillary tubes such as are used for glycerinized vaccine) should recommend its use and the careful determination of its value.

A later report along this same line, with the results of the ophthalmic reaction in 242 cases, is given by Smithies and Walker (*Jour. Amer. Med. Assoc.*, 1908, l, 259), who conclude that this test is of undoubted service in the diagnosis of tuberculosis. In no cases in which its worth could be tested clinically by the finding of tubercle bacilli did they fail to obtain decided occular manifestations following the instillation of tuberculin. This reaction did not follow when instillations were made in 126 individuals affected with diseases other than tuberculosis. It was not obtained in 74 apparently healthy adults. Care in the technique of its administration is very necessary for the success of the reaction. When the ophthalmic reaction is positive a careful complete examination of the suspected focus must be made before passing final judgment. All suspicious cases which fail to respond to one instillation should be reinstilled from two to five times and careful examinations made. None of the reactions (skin, subcutaneous, or ophthalmological) take the place of a thorough examination of the patient. They are, however, all confirmatory. Properly administered, the ophthalmic reaction is quite as valuable to the general practitioner as any of the others, and its convenience and rapidity of action certainly commend it.

Compensatory Venous Congestion.—W. J. Calvert (*Johns Hopkins Hospital Bulletin*, 1907, xviii, 447). In comparing the compensation of mitral and tricuspid insufficiency it has been noted that the liver and the peripheral vessels play the same role in compensation of the tricuspid valve as the right ventricle in compensating mitral insufficiency. Solomon found that the normal liver under high pressure holds its volume of water, most of which is expelled when the pressure is removed. This sponge-like activity of the liver may, with continued pressure, be destroyed, and so the degree of activity of the liver in compensating the heart lesions may be interfered with in the different forms of cirrhosis, etc. In order to bring out more clearly this role of venous congestion, Calvert studied more especially cases of pericarditis with effusion which, by pressure on the vena cava in the pericardium, produced most striking effects on the venous circulation. When high, this pericardial pressure causes the veins to collapse. When low, they are open. The only pressure that could keep them open is the venous pressure due to congestion. This must then compensate the pressure of the pericardial fluid on the vena cava, and this compensation must continue or the veins will be collapsed and prevent the blood from entering the heart. As the maximum venous pressure can be produced in pericarditis with effusion, and is no greater in tricuspid lesions, it must follow that this can be compensated for in the same degree as in pericarditis with effusion. The activity of the auricle must be taken into account, but if inactive and dilated, as suggested by Franke, it simply adds that much blood to the venous congestion. The congestion including the liver and right auricle in tricuspid insufficiency must be likened to the left auricle, pulmonary congestion, and right ventricle in mitral insufficiency. The right ventricle in tricuspid lesions plays the same role as the left ventricle in mitral lesions. Calvert concludes that on account of the importance of venous congestion in compensating pericardial and pleural effusions, pneumothorax, and tricuspid lesions, the name "compensatory venous congestion" should be used as a term which more accurately describes the function of congestion than the term chronic passive congestion, which was adopted at a time when the role of congestion had probably not been fully considered.

Additional Observations on Microbic Cyanosis—G. A. Gibson (*Quar. Med. Jour.*, 1907, i, 29). A few years ago Stokvis described for the first time the occurrence of cyanosis as the result of intestinal troubles. He believed the cyanotic appearance was produced by methemoglobin, but did not discover the manner in which the blood changes were produced. In his case there was clubbing of the fingers, deep cyanosis, and considerable albuminuria. At autopsy the lesions were those of ulcerative enteritis and parenchymatous nephritis. Since then there have been a few reports of such cases by different authors, in all of which the connecting link between the intestinal troubles and the cyanosis was established; yet the views as to the exact relation between the two conditions have varied. Gibson's case was that of a lady, aged thirty-six years, who had suffered for some years with weakness, headache, giddiness, and fainting. The skin and mucous membrane during these years had gradually become very cyanotic. The blood was as follows: Red blood cells, 3,200,000; hemoglobin, 48 per cent.; color index, 0.75; leukocytes, 7400. There was some poikilocytosis, but no nucleated reds or chromatophilia. Differential count showed 65 per cent. polymorphonuclears, 28 per cent. small mononuclears, 5 per cent. large mononuclears, and 2 per cent. eosinophiles. There was much intestinal irritation and gastric disturbance. The urine contained no albumin. Examination of the blood showed the presence of methemoglobin and a considerable amount of nitrites. The saliva also showed more nitrites than normal. The feces did not contain methemoglobin, and possessed no power of converting normal ox blood into methemoglobin. There were present, however, some nitrites. On the supposition that the formation of these nitrites might be hematogenous and due to bacterial agency, careful bacteriological examination of the blood was made with the isolation of an organism resembling the colon bacillus. The original source of this condition was traced to the bowels and the patient treated accordingly by means of intestinal antisepsis, with marked alleviation of her symptoms; when seen some time later the cyanosis had entirely cleared and the blood changes approached normal. There was no methemoglobin in the spectroscopic examination of the blood, and no organisms were cultivated from it. Toxic processes having their origin in some local infection with the colon bacillus are, of course, widely known, yet the idea that changes such as these might be brought about by their final entrance into the blood is entirely new. Gibson feels convinced that in the above-described condition we are dealing with a hitherto undescribed but perfectly definite form of disease. The colon bacillus may give rise to three stages of infection, in the first of which the intestinal symptoms are prominent as enteritis, diarrhœa, headache, and depression; in the second, the changes are referable to the formation of the nitrites which, by their absorption into the blood, give rise to methemoglobin and resulting cyanosis; in the third, the entrance of the bacilli into the blood and their multiplication there results in the development of the condition described above. As regards treatment, this should, of course, be intestinal antisepsis, either medically by drugs or, if justified, surgically by means of a colostomy and irrigation.

Multiple Telangiectases.—This condition is the subject of two very interesting papers by Osler, the first of which is on "Multiple Hereditary Telangiectases with Recurring Hemorrhages" (*Quarterly Medical Journal*, 1907, i, 53). The author observers that telangiectases may be seen under the following conditions: (1) On the cheeks, nose, and ears in persons who are exposed to the weather and in heavy drinkers. They may appear in very young persons. They are commonly seen on the skin of the thorax along the line of attachment of the diaphragm. (2) Small pink spots often pin point in size. (3) Small nodular forms which may be congenital. (4) The spider form with its interesting association with cirrhosis of the liver. (5) The mat form. (6) The generalized acquired telangiectases (reported below); and lastly, (7) the multiple hereditary form with recurring hemorrhages. Illustrative of this latter group, Osler refers to the history of two brothers who had numerous telangiectases of the skin and mucous membranes (*Johns Hopkins Hosp. Bull.*, xii, 333), and who from childhood had bleeding from the nose and some of the spots. Seven members of their family had been subject to them. In one case at autopsy telangiectases were found in the mucous membranes of the stomach. Another case, reported in detail and illustrated, is that of a doctor, aged fifty-three, who was extremely anemic when first seen and had numerous telangiectases over the face, ears, and lips. He had been a bleeder since his tenth year. There was a family history of bleeding and of the presence in some members of the telangiectases. This patient improved greatly under the use of calcium lactate, 60 grains daily. His coagulation time had been reduced from six to seven minutes to one and a half minutes. In this condition the telangiectases are of three kinds—the pin point, the spider form, which is the commonest, and the nodular variety. These are well seen in the accompanying illustrations. Osler has brought together the history of eight families affected in this same manner, in many of which the disease was serious on account of the severe and frequent bleedings. Marked anemia and even death have been the outcome.

As regards treatment, the careful application of the cautery at the outset of the disease, especially to the stellate veins of the nostrils, may prevent hemorrhages. This, while producing severe hemorrhage in one case, had a beneficial result ultimately, as no severe epistaxis occurred for many months. Calcium lactate seems to help some cases very markedly.

The second article by Osler is the report of a case which falls undegroup 6 as reported above, that is, "Telangiectasis Circumscripta Unirversalis" (*Johns Hopkins Hosp. Bull.*, 1907, xviii, 401). This excessively rare form of the disease, of which only some 15 to 20 cases are on record, occurred in a man, aged thirty-nine years, of a markedly neurotic temperament. The family history was negative. His general health had been only fair, and the purplish mottling of the skin had been noted during the past ten years. There was no definite history of continued bleeding. The present attacks of severe pain and associated prostration led to his admission to the hospital for treatment. During his first attack of pain a large amount of bloody urine was passed. Physical examination was practically negative excepting for the appearance of the skin. The face showed a few spots like acne rosacea, but over the trunks and extremities were numerous dark red spots looking like a fresh purpura. They were thickly set over the chest and back, on the flexor surfaces of the forearm and inner aspects of the arm. The spots varied in size from 2 to 6 mm. in diameter and often coalesced. They were altered in color to a vivid red by friction. The hands and feet were of a deep purple color, the fingers cyanotic, and looked like the picture of Raynaud's disease. Factitious urticaria could be readily produced. (This and the skin conditions as described above are well shown in plates.) Osler notes that this is an acquired and not a congenital form. The capillaries and not the small venules are involved, that is, there is a prominent dilatation of the capillaries in localized areas. The condition of the hands and feet suggests the local asphyxia of Raynaud's disease. There was little or no change in the patient's condition a year after first seeing him. The dermatographia was always most marked and very striking. The recurring attacks of colic, for which no cause could be found, may have been associated with a gastro-intestinal urticaria, such as is responsible for the colic in Henoch's purpura. The hematuria may be a form of so-called renal epistaxis, such as is met with sometimes in Raynaud's disease. As regards treatment, modified Weir Mitchell rest cure, with symptomatic measures were of some benefit in this case.

SURGERY.

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Mechanical Obstruction by Torsion of the Whole of the Small Intestine and its Mesentery.—DELBET (*Arch. gén. de Chir.*, 1907, i, 343) reports a case in which, seven months before, the patient had had the appendix removed. The present attack began suddenly with severe pain throughout the whole abdomen and bilious vomiting, and these symptoms were present on his admission to the hospital. The abdomen was moderately distended. The diagnosis was made of occlusion by an adhesion or a band high in the small intestine. A median laparotomy below the umbilicus was performed forty-four hours after the beginning of the attack. Some brownish fluid escaped, and there was discovered, to the inner side of the cecum, a tense band, under which two loops of intestine escaped. Total volvulus of the small intestine was diagnosticated. This was uniformly distended and bluish in color and its mesentery brownish and thickened. The large intestine was contracted and normal in color. Evisceration and detorsion of the intestinal mass was performed and two intestinal loops released from under some old adhesions. Drainage